

# Power iSCSI / NAS Feature Options

- ▶ High Availability On Site Data Replication
- ▶ Off Site DR Data Replication
- ▶ Block Level Data Snapshot
- ▶ Secure Data Archiving (Virtual WORM)
- ▶ Disk Expansion
- ▶ Virtualisation
- ▶ Comprehensive SAN Management Suite



Westek's family of Power iSCSI Systems have a wide range of standard and optional features to provide advanced functionality, expandability, data protection and management.

## **1. High Availability On Site Data Replication.**

Westek's HA suite option for two POWER iSCSI systems provides ultimate data protection with true no single point of failure data protection, maintaining two virtually real time copies of your valuable data. A primary active system acts as the main storage system. All new block data writes are replicated asynchronously over one or more Gigabit Ethernet LAN connections to a second passive system, usually located somewhere else on the same site.

In the unlikely event of a catastrophic failure of the primary active system, a seamless automatic (or manual) failover to the secondary system is initiated and takes over without any significant interruption of access to the data storage. The seamless failover usually takes less than 15 seconds, short enough for servers using the storage system to be completely unaware that a switch over has taken place.

## **2. Off Site Replication for DR Protection.**

Westek's DR suite option provides multi-way asynchronous data replication to one or more remote sites to maintain an off-site copy of your data over a WAN link. Since only the block level changes are sent over the WAN link (rather than the whole file as in file based copy systems) the use of the available bandwidth between sites is optimised.

The replication may be scheduled, bandwidth use controlled, and supports one to one, one to many and many to one architectures as well as two way replication between sites. The systems may also be different with a high performance POWER iSCSI family system on the main site, and lower cost iSCSI storage for backup on the DR site.

## **3. Snapshot**

Westek's block level snapshot is a standard feature on the POWER iSCSI family. A snapshot is a point in time "copy" of your data which can then be accessed to recover accidentally deleted files, or rolled back to before a virus attack. The snapshot can also be mounted on a backup server over the LAN and used to perform a backup of the data to a tape system or other backup device using virtually any third party server based applications such as Veritas. The mounted snapshot is presented as a new iSCSI virtual disk to the backup server and so no actual storage space on the backup server itself is required. The POWER iSCSI storage system continues its normal service uninterrupted allowing long backup windows.

Snapshots may be taken of any storage volume manually at any time, or scheduled automatically on a regular basis. Taking a snapshot is virtually instant (usually just a few seconds) and takes very little space on the storage system, since only subsequent block changes are recorded.

Up to 512 snapshots may be taken of each individual volume on the iSCSI storage system, total 262,144 snapshots maximum. All snapshots taken have a date and time stamp and snapshots no longer required can simply be deleted.

#### **4. Secure Data Archiving (Virtual Worm).**

Westek's Virtual Worm option uses disk based storage to provide a rapid and secure file archiving system. Virtual Worm is fast, reliable and easy to use. It enables the archive of important data quickly and easily, making records permanent and accessible. It is ideal for financial archiving, legal, photographic and medical record keeping, where regulations require permanent archiving and fast file access for audit purposes.

Virtual WORM is supported as an option on any of Westek's larger NAS systems and effectively converts the entire NAS storage system into a WORM file store. Users can "drag & drop" files to the network attached storage system, or save from within a third party application.

Files written to the Virtual WORM system cannot be modified or deleted. New files can be copied to the Virtual WORM system and existing files can be read. Access permissions to read existing or write new files the WORM system can also be controlled.

#### **5. Capacity Expansion.**

Westek's POWER iSCSI Systems are highly scalable and there are several ways to expand the useable capacity of the storage system as your capacity needs grow.

i. Dynamic RAID expansion. Starting with a larger system with more disk bays than are actually required initially allows more disks to simply be added into the array as your needs grow. Westek's RAID systems support dynamic expansion and new disks are built into the existing array and its capacity expanded accordingly. Since RAID performance is better with more disk spindles it's a good idea to start with as many disks as possible in the array to achieve good performance. At least 8 SATA or 6 SAS disks are recommended for RAID 5 or RAID 6 configurations.

ii. Add additional POWER iSCSI Systems. Additional systems may be presented in parallel and treated as additional storage systems to increase capacity and add even more performance, or they can be connected themselves as iSCSI targets to the existing POWER iSCSI system and then virtualised to achieve one large system with a single management point.

lii. Add additional disk bay capacity. Westek's POWER iSCSI system feature an external SAS expansion port to connect to additional disk bays that are then used by the main RAID system. Westek's R3160J 3U rack mount unit provides 16 additional SAS or SATA disk bays. Multiple R3160J units can be connected to provide up to 128 additional disk drive bays to the main iSCSI system.

#### **6. Virtualisation**

Westek's POWER iSCSI systems are able to virtualise multiple disparate storage systems to provide a single virtual iSCSI (or fibre channel as an option) storage resource. The system supports an iSCSI initiator as well as being an iSCSI target SAN, allowing multiple iSCSI storage systems to be presented to the main iSCSI system and virtualised as one storage pool. Optional connection / network interfaces available for the POWER iSCSI series allow fibre channel and SCSI DAS legacy systems also to be utilised and presented as a unified iSCSI storage pool. Westek's features such as snapshot and replication can also be applied to these virtualised legacy systems providing a cost effective way of adding new high performance storage, while still utilising legacy systems for additional storage capacity.

Westek's iSCSI systems are ideal for use in virtual server environments including VMware®, Microsofts Hyper V® and many other server virtualisation systems that required an iSCSI storage resource.

#### **7. Management and Reporting**

A comprehensive set of remote management and reporting tools are available for Westek's POWER iSCSI family as an optional suite, using user friendly GUIs based on the familiar Windows environment. The management suite allows remote management and reporting for both multiple storage systems and servers.

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